

Speed



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Section 4: Speed

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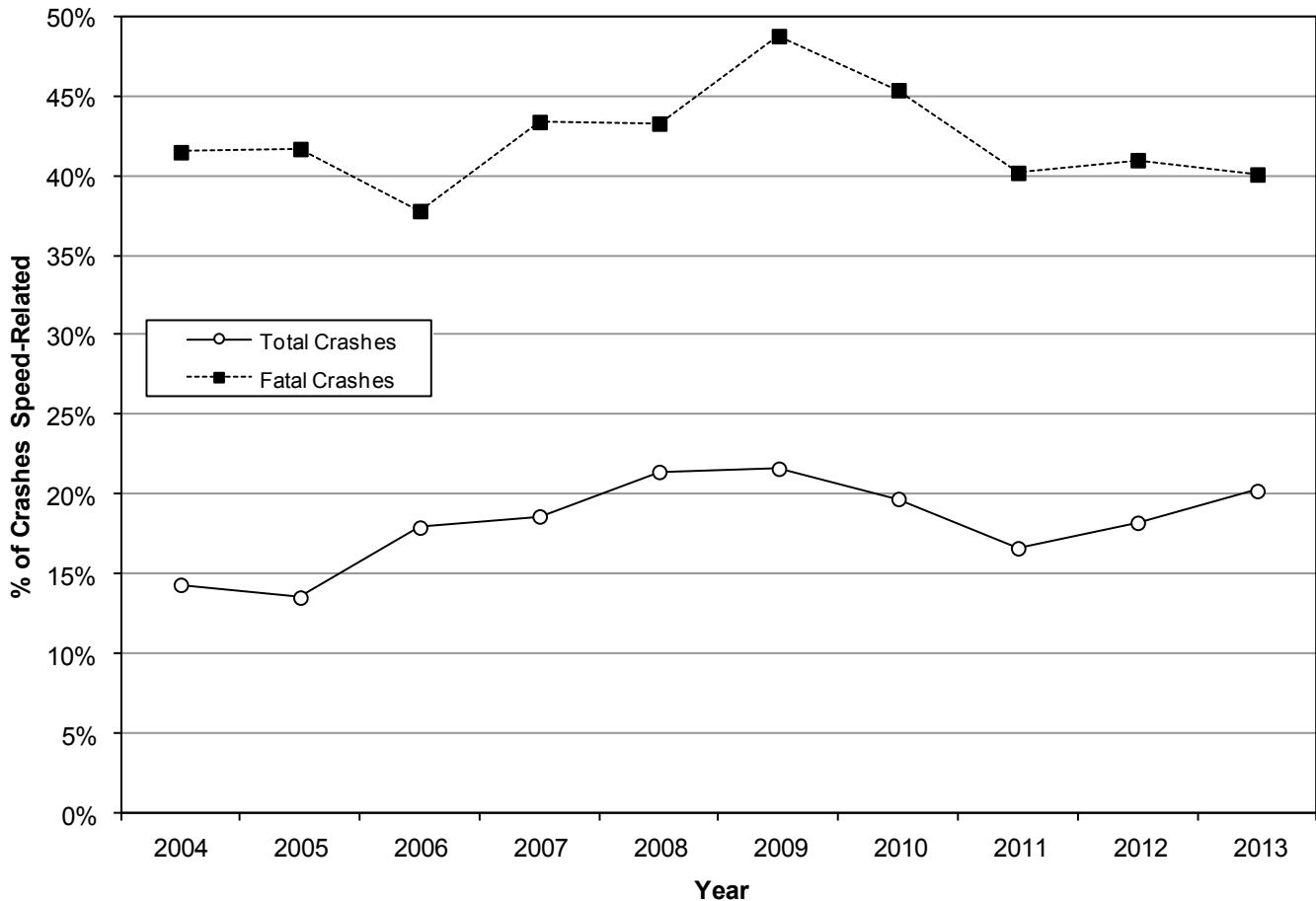
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Trends

Speed-Related Crashes (Utah 2004-2013)

Speed-Related Crashes												
Year	Property Damage Only			Injury			Fatal			Total		
	All	Speed		All	Speed		All	Speed		All	Speed	
	#	#	%	#	#	%	#	#	%	#	#	%
2004	34,222	4,836	14.1%	19,423	2,764	14.2%	260	108	41.5%	53,905	7,708	14.3%
2005	35,158	4,676	13.3%	19,545	2,653	13.6%	235	98	41.7%	54,938	7,427	13.5%
2006	37,674	6,450	17.1%	18,264	3,539	19.4%	249	94	37.8%	56,187	10,083	17.9%
2007	42,368	7,612	18.0%	18,619	3,687	19.8%	258	112	43.4%	61,245	11,411	18.6%
2008	38,997	8,311	21.3%	17,125	3,622	21.2%	245	106	43.3%	56,367	12,039	21.4%
2009	35,398	7,607	21.5%	15,752	3,379	21.5%	217	106	48.8%	51,367	11,092	21.6%
2010	34,155	6,591	19.3%	14,995	3,026	20.2%	218	99	45.4%	49,368	9,716	19.7%
2011	36,418	5,724	15.7%	15,645	2,885	18.4%	224	90	40.2%	52,287	8,699	16.6%
2012	34,635	6,135	17.7%	15,765	2,970	18.8%	200	83	41.5%	50,600	9,188	18.2%
2013	39,301	7,925	20.2%	16,134	3,225	20.0%	202	81	40.1%	55,637	11,231	20.2%
Total	368,326	65,867	17.9%	171,267	31,750	18.5%	2,308	977	42.3%	541,901	98,594	18.2%



- Speed-related crashes are a concern because of the increased potential for severe injury and death.
- The 10-year trend shows that 18.2% of total crashes and 42.3% of fatal crashes in Utah are speed-related.
- In 2013, a higher percentage of speed-related crashes were fatal (0.7%) compared to all motor vehicle crashes (0.4%).
- In 2013, speed-related crashes were 2.7 times more likely to be fatal than other motor vehicle crashes.

Crash Conditions

Speed-Related Crashes by County (Utah 2013)

Speed-Related Crashes								
County	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT
Morgan	81	61.7	12	9.1	0	0.00	93	70.8
Salt Lake	3,739	42.1	1,250	14.1	18	0.20	5,007	56.4
Wasatch	111	33.3	55	16.5	1	0.30	167	50.1
Utah	1,123	28.4	571	14.4	12	0.30	1,706	43.1
Weber	439	27.3	215	13.4	10	0.62	664	41.3
Duchesne	64	23.0	43	15.4	2	0.72	109	39.1
Uintah	113	26.9	44	10.5	1	0.24	158	37.7
Davis	689	27.1	256	10.1	7	0.28	952	37.5
Cache	234	26.6	92	10.5	4	0.45	330	37.5
Beaver	69	26.1	28	10.6	0	0.00	97	36.7
Summit	190	25.5	70	9.4	1	0.13	261	35.0
Box Elder	198	22.1	89	9.9	1	0.11	288	32.2
Tooele	171	20.9	86	10.5	4	0.49	261	31.9
Rich	5	10.2	10	20.4	0	0.00	15	30.5
Iron	145	20.1	70	9.7	3	0.42	218	30.2
Millard	102	20.8	35	7.1	3	0.61	140	28.5
Sevier	54	17.4	33	10.6	1	0.32	88	28.3
Sanpete	31	14.7	22	10.4	1	0.47	54	25.6
Garfield	15	13.9	12	11.1	0	0.00	27	25.0
Washington	180	12.8	136	9.7	5	0.36	321	22.8
Daggett	4	12.9	3	9.7	0	0.00	7	22.6
Wayne	9	18.9	1	2.1	0	0.00	10	21.0
Juab	55	14.1	17	4.3	1	0.26	73	18.7
Emery	25	7.1	21	6.0	2	0.57	48	13.6
Carbon	27	8.7	13	4.2	0	0.00	40	12.9
Grand	20	6.0	21	6.3	1	0.30	42	12.5
Kane	14	8.7	4	2.5	1	0.62	19	11.8
San Juan	17	5.4	16	5.1	2	0.64	35	11.2
Piute	1	3.6	0	0.0	0	0.00	1	3.6
Statewide	7,925	29.3	3,225	11.9	81	0.30	11,231	41.6

- Morgan (70.8), Salt Lake (56.4), Wasatch (50.1), and Utah (43.1) counties had the highest rates of speed-related total crashes per 100 million vehicle miles traveled.
- Duchesne (0.72), San Juan (0.64), Weber (0.62), and Kane (0.62) counties had the highest rates of fatal speed-related crashes per 100 million vehicle miles traveled.
- Piute (3.6), San Juan (11.2), and Kane (11.8) counties had the lowest rates of speed-related total crashes per 100 million vehicle miles traveled.

Speed-Related Crashes by Urban/Rural Location (Utah 2013)

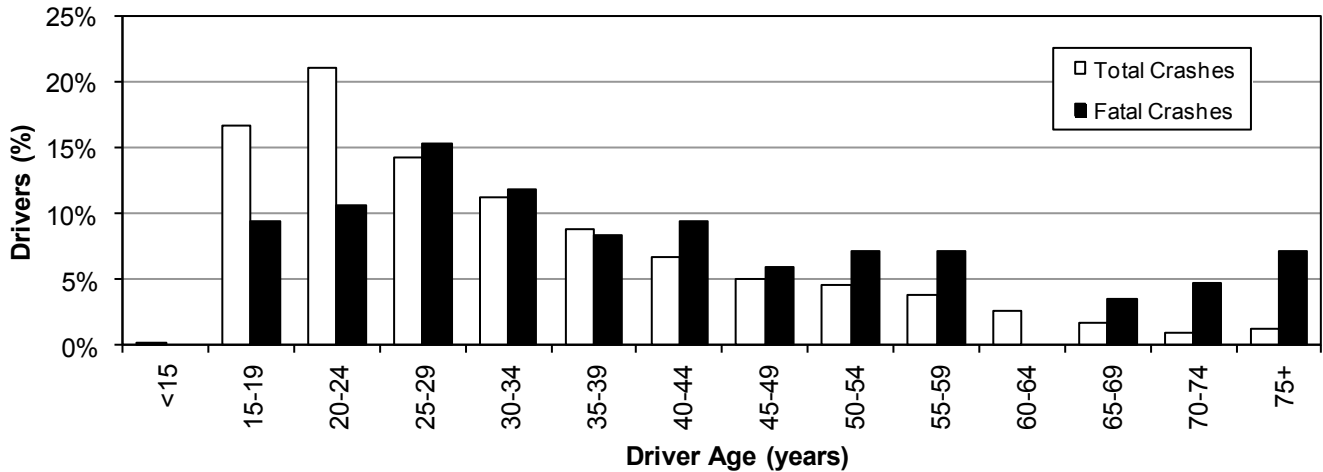
- While urban areas had a higher rate of total speed-related crashes per VMT, rural areas had a higher rate for fatal speed crashes.
- Speed-related crashes occurring in rural areas were 1.8 times more likely to result in a death than speed-related crashes in urban areas.

Speed-Related Crashes								
Location	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT	#	Rate per 100 Million VMT
Urban	6,404	33.2	2,520	13.1	56	0.29	8,980	46.6
Rural	1,521	19.6	705	9.1	25	0.32	2,251	29.1
Total	7,925	29.3	3,225	11.9	81	0.30	11,231	41.6

Crash Conditions

Age of Drivers in Speed-Related Crashes (Utah 2013)

Speed-Related Drivers								
Age	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
<15	5	0.1%	15	0.4%	0	0.0%	20	0.2%
15-19	1,435	17.2%	541	15.8%	8	9.4%	1,984	16.7%
20-24	1,797	21.5%	695	20.3%	9	10.6%	2,501	21.1%
25-29	1,189	14.2%	477	13.9%	13	15.3%	1,679	14.2%
30-34	922	11.0%	398	11.6%	10	11.8%	1,330	11.2%
35-39	725	8.7%	309	9.0%	7	8.2%	1,041	8.8%
40-44	522	6.3%	263	7.7%	8	9.4%	793	6.7%
45-49	420	5.0%	173	5.0%	5	5.9%	598	5.0%
50-54	369	4.4%	162	4.7%	6	7.1%	537	4.5%
55-59	304	3.6%	129	3.8%	6	7.1%	439	3.7%
60-64	210	2.5%	85	2.5%	0	0.0%	295	2.5%
65-69	130	1.6%	58	1.7%	3	3.5%	191	1.6%
70-74	63	0.8%	31	0.9%	4	4.7%	98	0.8%
75+	85	1.0%	42	1.2%	6	7.1%	133	1.1%
Unknown	176	2.1%	48	1.4%	0	0.0%	224	1.9%
Total	8,352	100.0%	3,426	100.0%	85	100.0%	11,863	100.0%



- Younger drivers had the highest percentage of total speed-related crashes and fatal crashes.

Gender of Drivers in Speed-Related Crashes (Utah 2013)

Speed-Related Drivers								
Gender	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Male	5,064	60.6%	2,048	59.8%	70	82.4%	7,182	60.5%
Female	3,104	37.2%	1,339	39.1%	15	17.6%	4,458	37.6%
Unknown	184	2.2%	39	1.1%	0	0.0%	223	1.9%
Total	8,352	100.0%	3,426	100.0%	85	100.0%	11,863	100.0%



- Male drivers represented 60.5% of the drivers in speed-related total crashes and 82.4% of the drivers in speed-related fatal crashes.

Crash Conditions

Speed-Related Crashes by Vehicle Type (Utah 2013)

- For total speed-related crashes, passenger car and SUV were the leading vehicle types.
- For fatal speed-related crashes, passenger car and motorcycle were the leading vehicle types.
- Motorcycle was overrepresented and van was underrepresented in speed-related crashes compared to other vehicle types in all crashes.

Speed-Related Vehicles								
Vehicle Type	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Passenger Car	4,820	57.7%	1,760	51.4%	38	44.7%	6,618	55.8%
SUV	1,612	19.3%	678	19.8%	12	14.1%	2,302	19.4%
Pickup Truck	1,315	15.7%	543	15.8%	15	17.6%	1,873	15.8%
Van	339	4.1%	149	4.3%	0	0.0%	488	4.1%
Heavy Truck	186	2.2%	55	1.6%	2	2.4%	243	2.0%
Motorcycle	17	0.2%	175	5.1%	17	20.0%	209	1.8%
Bus	14	0.2%	7	0.2%	0	0.0%	21	0.2%
Other	1	0.0%	55	1.6%	1	1.2%	57	0.5%
Unknown	48	0.6%	4	0.1%	0	0.0%	52	0.4%
Total	8,352	100.0%	3,426	100.0%	85	100.0%	11,863	100.0%

Speed-Related Crashes by Month (Utah 2013)

Speed-Related Crashes								
Month	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	Rate per Day	#	Rate per Day	#	Rate per Day	#	Rate per Day
January	1,856	59.9	499	16.1	3	0.10	2,358	76.1
February	921	32.9	348	12.4	4	0.14	1,273	45.5
March	430	13.9	201	6.5	5	0.16	636	20.5
April	354	11.8	189	6.3	9	0.30	552	18.4
May	296	9.5	216	7.0	8	0.26	520	16.8
June	282	9.4	176	5.9	9	0.30	467	15.6
July	318	10.3	210	6.8	6	0.19	534	17.2
August	300	9.7	209	6.7	11	0.35	520	16.8
September	341	11.4	222	7.4	5	0.17	568	18.9
October	355	11.5	212	6.8	8	0.26	575	18.5
November	487	16.2	200	6.7	11	0.37	698	23.3
December	1,985	64.0	543	17.5	2	0.06	2,530	81.6
Total	7,925	21.7	3,225	8.8	81	0.22	11,231	30.8

- Overall, December (81.6) and January (76.1) had the highest rates of speed-related crashes per day.
- November (0.37) and August (0.35) had the highest rates per day of fatal speed-related crashes.

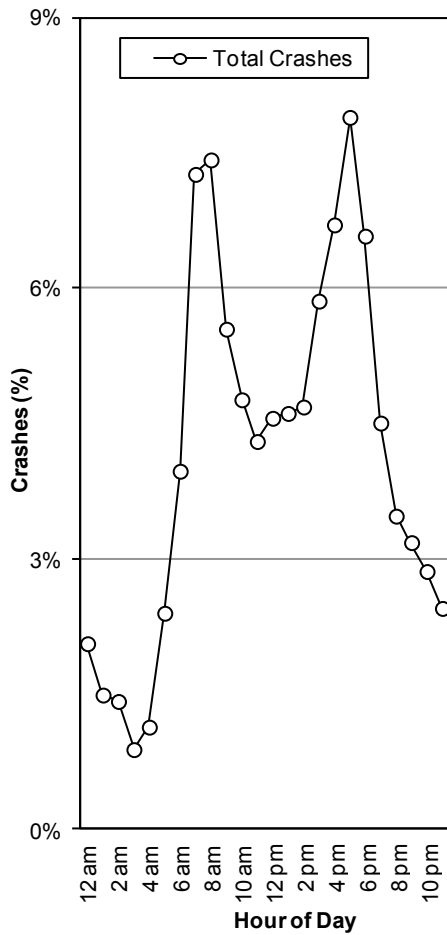
Speed-Related Crashes by Day of Week (Utah 2013)

- The highest percentage of speed-related total crashes occurred on Thursday while the highest percentage of fatal crashes occurred on Saturday.
- The lowest percentage of speed-related total crashes occurred on Sunday while the lowest percentage of fatal crashes occurred on Tuesday.

Speed-Related Crashes								
Day of Week	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Sunday	752	9.5%	333	10.3%	12	14.8%	1,097	9.8%
Monday	832	10.5%	369	11.4%	14	17.3%	1,215	10.8%
Tuesday	1,357	17.1%	503	15.6%	8	9.9%	1,868	16.6%
Wednesday	786	9.9%	358	11.1%	9	11.1%	1,153	10.3%
Thursday	1,581	19.9%	541	16.8%	12	14.8%	2,134	19.0%
Friday	1,175	14.8%	507	15.7%	10	12.3%	1,692	15.1%
Saturday	1,442	18.2%	614	19.0%	16	19.8%	2,072	18.4%
Total	7,925	100.0%	3,225	100.0%	81	100.0%	11,231	100.0%

Crash Conditions

Speed-Related Crashes by Hour (Utah 2013)



Speed-Related Crashes								
Hour	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Midnight	161	2.0%	69	2.1%	1	1.2%	231	2.1%
1 a.m.	109	1.4%	56	1.7%	2	2.5%	167	1.5%
2 a.m.	106	1.3%	50	1.6%	3	3.7%	159	1.4%
3 a.m.	70	0.9%	29	0.9%	0	0.0%	99	0.9%
4 a.m.	96	1.2%	30	0.9%	1	1.2%	127	1.1%
5 a.m.	199	2.5%	67	2.1%	3	3.7%	269	2.4%
6 a.m.	329	4.2%	113	3.5%	4	4.9%	446	4.0%
7 a.m.	582	7.3%	232	7.2%	2	2.5%	816	7.3%
8 a.m.	628	7.9%	203	6.3%	3	3.7%	834	7.4%
9 a.m.	459	5.8%	162	5.0%	2	2.5%	623	5.5%
10 a.m.	402	5.1%	128	4.0%	5	6.2%	535	4.8%
11 a.m.	343	4.3%	137	4.2%	3	3.7%	483	4.3%
Noon	368	4.6%	140	4.3%	4	4.9%	512	4.6%
1 p.m.	368	4.6%	143	4.4%	7	8.6%	518	4.6%
2 p.m.	358	4.5%	166	5.1%	2	2.5%	526	4.7%
3 p.m.	430	5.4%	223	6.9%	5	6.2%	658	5.9%
4 p.m.	528	6.7%	222	6.9%	3	3.7%	753	6.7%
5 p.m.	618	7.8%	264	8.2%	5	6.2%	887	7.9%
6 p.m.	521	6.6%	214	6.6%	4	4.9%	739	6.6%
7 p.m.	344	4.3%	155	4.8%	7	8.6%	506	4.5%
8 p.m.	250	3.2%	134	4.2%	6	7.4%	390	3.5%
9 p.m.	245	3.1%	109	3.4%	3	3.7%	357	3.2%
10 p.m.	230	2.9%	88	2.7%	3	3.7%	321	2.9%
11 p.m.	181	2.3%	91	2.8%	3	3.7%	275	2.4%
Total	7,925	100.0%	3,225	100.0%	81	100.0%	11,231	100.0%

- Total speed-related crashes peaked in the morning (7:00 a.m. to 9:59 a.m.), with another peak in the late afternoon/evening (3:00 p.m. to 6:59 p.m.).
- Fatal speed-related crashes varied by hour and were highest during the 1:00 p.m. and 7:00 p.m. hours.

Speed-Related Crashes by Speed Limit (Utah 2013)

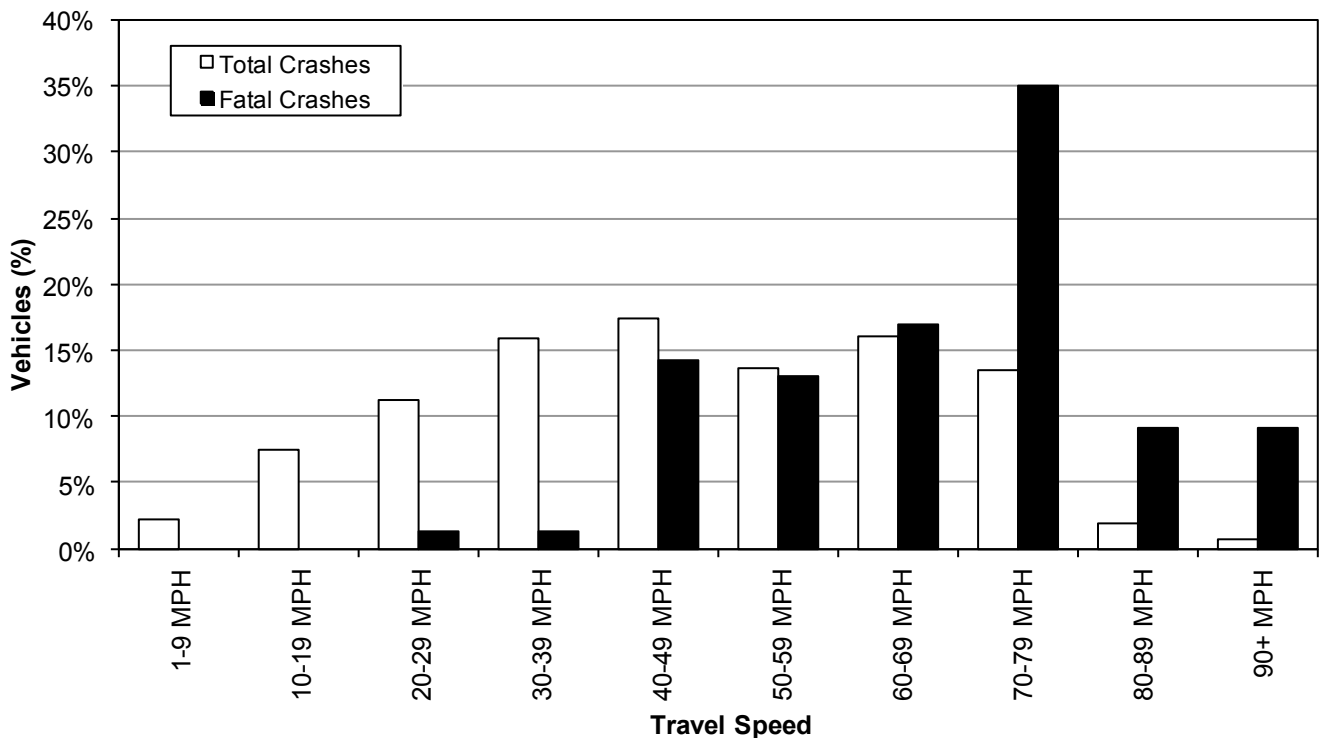
Speed-Related Vehicles								
Speed Limit	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
5-15 MPH	127	1.5%	41	1.2%	0	0.0%	168	1.4%
20-25 MPH	898	10.8%	408	11.9%	11	12.9%	1,317	11.1%
30-35 MPH	917	11.0%	500	14.6%	11	12.9%	1,428	12.0%
40-45 MPH	949	11.4%	481	14.0%	15	17.6%	1,445	12.2%
50-55 MPH	562	6.7%	310	9.0%	11	12.9%	883	7.4%
60-65 MPH	3,664	43.9%	1,241	36.2%	26	30.6%	4,931	41.6%
70-75 MPH	465	5.6%	160	4.7%	8	9.4%	633	5.3%
80 MPH	169	2.0%	42	1.2%	1	1.2%	212	1.8%
Unknown	601	7.2%	243	7.1%	2	2.4%	846	7.1%
Total	8,352	100.0%	3,426	100.0%	85	100.0%	11,863	100.0%

- When compared to all crashes, speed-related crashes were more likely to occur on roads with higher speed limits.
- Over one-half (52.4% of known) of total speed-related crashes occurred where the speed limit was 60 MPH or higher.

Crash Conditions

Speed-Related Crashes by Travel Speed (Utah 2013)

Speed-Related Vehicles								
Travel Speed	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
1-9 MPH	191	2.3%	39	1.1%	0	0.0%	230	1.9%
10-19 MPH	636	7.6%	136	4.0%	0	0.0%	772	6.5%
20-29 MPH	927	11.1%	244	7.1%	1	1.2%	1,172	9.9%
30-39 MPH	1,150	13.8%	508	14.8%	1	1.2%	1,659	14.0%
40-49 MPH	1,206	14.4%	598	17.5%	11	12.9%	1,815	15.3%
50-59 MPH	944	11.3%	466	13.6%	10	11.8%	1,420	12.0%
60-69 MPH	1,185	14.2%	479	14.0%	13	15.3%	1,677	14.1%
70-79 MPH	920	11.0%	465	13.6%	27	31.8%	1,412	11.9%
80-89 MPH	120	1.4%	77	2.2%	7	8.2%	204	1.7%
90+ MPH	16	0.2%	45	1.3%	7	8.2%	68	0.6%
Unknown	1,057	12.7%	369	10.8%	8	9.4%	1,434	12.1%
Total	8,352	100.0%	3,426	100.0%	85	100.0%	11,863	100.0%

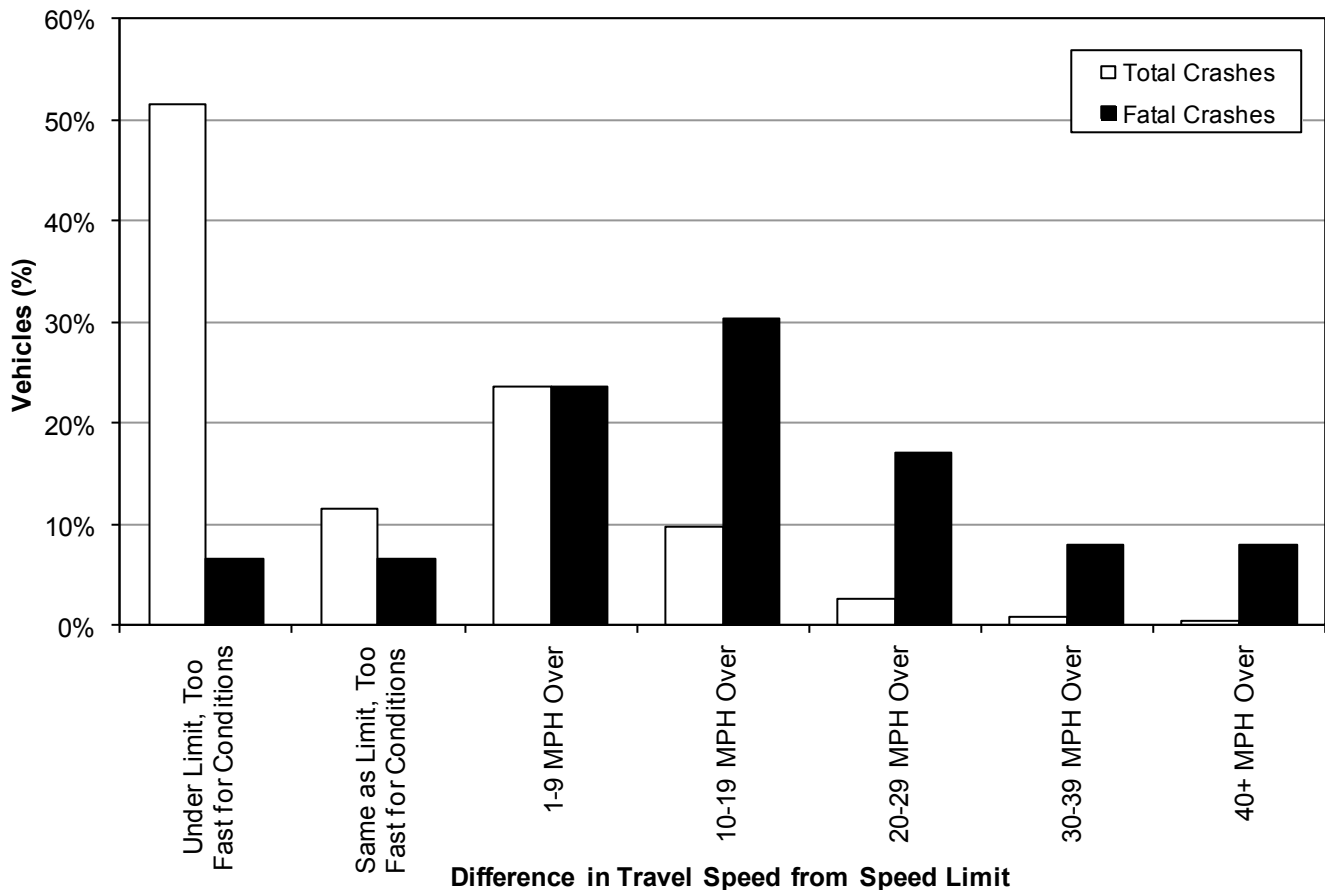


- 40-49 MPH (17.4% of known) and 60-69 MPH (16.1% of known) were the leading travel speeds of vehicles in total speed-related crashes.
- Over two-thirds (70.1% of known) of vehicles in fatal speed-related crashes were traveling 60+ MPH.
- Speed-related vehicles in fatal crashes were more likely to be traveling at higher speeds. The higher the speed the greater the amount of energy that must be absorbed in a crash, hence there is more likelihood of serious injury and death.
- Drivers become increased risks to themselves and other people on the highway due to higher speeds.
- The risk of death and severe injury is a direct exponential function of speed.
- Studies show that a 5% increase in average speed leads to a 10% increase in injury crashes and a 20% increase in fatal crashes. A 5% decrease in speed leads to a 10% decrease in injury crashes and a 20% decrease in fatal crashes.

Crash Conditions

Speed-Related Crashes by Difference in Travel Speed From Speed Limit (Utah 2013)

Speed-Related Vehicles								
Travel Speed vs. Speed Limit	PDO Crashes		Injury Crashes		Fatal Crashes		Total	
	#	%	#	%	#	%	#	%
Under Limit, Too Fast for Conditions	4,103	49.1%	1,156	33.7%	5	5.9%	5,264	44.4%
Same as Limit, Too Fast for Conditions	861	10.3%	307	9.0%	5	5.9%	1,173	9.9%
1-9 MPH Over Speed Limit	1,547	18.5%	842	24.6%	18	21.2%	2,407	20.3%
10-19 MPH Over Speed Limit	522	6.3%	452	13.2%	23	27.1%	997	8.4%
20-29 MPH Over Speed Limit	98	1.2%	145	4.2%	13	15.3%	256	2.2%
30-39 MPH Over Speed Limit	24	0.3%	42	1.2%	6	7.1%	72	0.6%
40+ MPH Over Speed Limit	12	0.1%	30	0.9%	6	7.1%	48	0.4%
Unknown	1,185	14.2%	452	13.2%	9	10.6%	1,646	13.9%
Total	8,352	100.0%	3,426	100.0%	85	100.0%	11,863	100.0%



- It is troubling to see that 3,780 vehicles in crashes were known to be traveling over the posted speed limit.
- Speed-related vehicles in fatal crashes were more likely to be exceeding the posted speed limit by greater amounts.
- Speed-related vehicles in total crashes were more likely to be traveling too fast for conditions.
- Nearly nine out of every ten speed-related vehicles (86.8% where speed was known) in fatal crashes were traveling over the posted speed limit.
- Speed increases the crash energy by the square of the speeds. When impact speed increases from 40 to 60 MPH (a 50% increase), the energy that needs to be managed increases by 125%.